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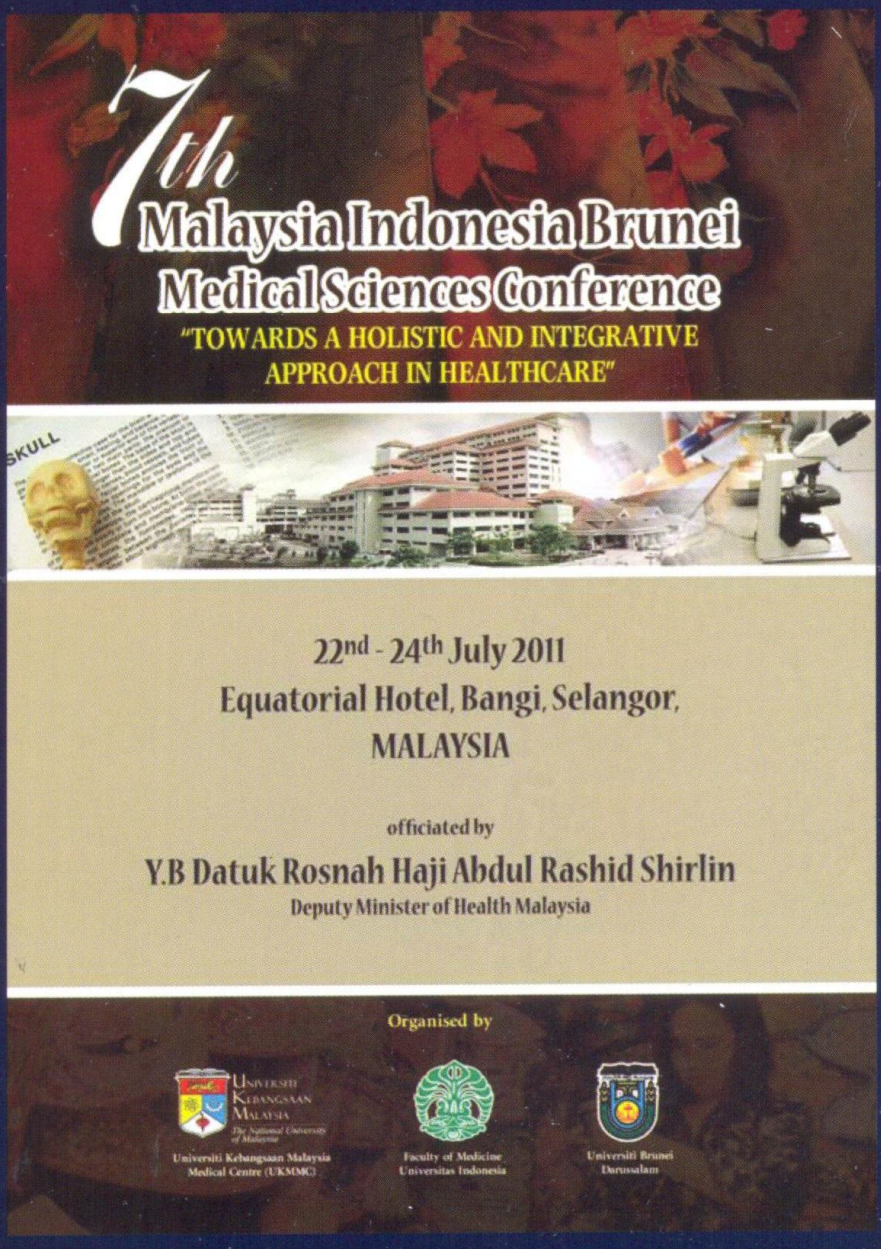

DIVERSITY OF INTESTINAL PARASITES IN HUMAN AND ANIMALS LIVING IN AN INDIGENOUS COMMUNITY IN PENINSULAR MALAYSIA

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Background:
The indigenous communities are prone to parasitic diseases due to the lack of personal hygiene and proper health practices. Given that they live in close proximity with animals, parasitic infections could also be acquired from infected animals. Currently, information on intestinal parasites in animals found in indigenous communities is lacking. Hence, a cross sectional study was conducted to assess the diversity of intestinal parasites in human and animals in an indigenous community.

Materials and Methods:
Detection of parasites was performed on 54 human fecal samples and 62 animal fecal samples using formalin ether concentration technique and wet mount iodine stain for the presence of ova, larva and cysts, whilst modified Ziehl-Neelsen was used to detect presence of coccidian protozoan.

Results:
Overall prevalence of intestinal parasites in human and animals was 74.1% (out of 54) and 85% (out of 62), respectively. Observed protozoa in human included *Entamoeba histolytica/dispar/moshkovskii* (18.5%), *Cryptosporidium sp.* (5.6%), *Giardia sp.* (3.7%) and *Isospora sp.* (1.9%) whilst soil-transmitted helminths (STH) detected comprised of *Trichuris trichuria* (51.9%), *Ascaris lumbricoides* (27.8%) and hookworm (13.0%). In animals, protozoa that were determined consisted of *Giardia sp.* (11.3%), *Cryptosporidium sp.* (9.7%), *Entamoeba histolytica/dispar/moshkovskii* (9.7%), *Balantidium sp.* (6.5%), *Isospora sp.* (3.2%) and *Eimeria sp.* (1.6%) whereas STH found in this study were hookworm (46.8%), *Toxocara canis* (37.1%), *Trichuris vulpis* (16.1%), *Toxoascaris leonina* (8.1%), *Dipylidium caninum* (6.5%), *Capillaria sp.* (4.8%), *Parascaris equorum* (3.2%), *Enterobius vermicularis* (1.6%) and *Opisthorchiasis viverrini* (1.6%).

Conclusion:
These results demonstrated the high rates and diversity of intestinal parasites in human and the animals living in close proximity with these indigenous people. In addition, the presence of zoonotic parasites also highlighted the potential of zoonoses in this community however this hypothesis needs to be confirmed with the utilization of advanced molecular tools.

Keywords:
Intestinal parasites, indigenous people, animals, zoonotic transmission